Docket No. 71836-012

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

e Application of

Customer Number: 20277

WOLFGANG LUDWIG

Confirmation Number: 3668

Serial No. 09/808,398

Group Art Unit: 1761

Filed: March 14, 2001

Examiner: D. Becker

For: METHOD OF AND APPARATUS FOR THE PROCESSING OF MEAT

TRANSMITTAL OF APPEAL BRIEF

Mail Stop Appeal Brief Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Submitted herewith in triplicate is Appellant(s) Appeal Brief in support of the Notice of Appeal filed February 28, 2005. Please charge the Appeal Brief fee of \$500.00 to Deposit Account 500417.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

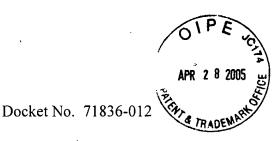
Respectfully submitted,

DERMOTT, WILL & EMERY

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Date: April 28, 2005 Facsimile: (202) 756-8087



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Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed on February 28 2005, wherein Appellants appealed from the primary Examiner's final rejection of claims 11 and 17 through 21.

I. Real Party In Interest

The real party and interest is Wolf-Tec, Inc.

09808398

II. RELATED APPEALS AND INTERFERENCES

Appellant is unaware of any related Appeal or Interference.

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III. STATUS OF CLAIMS

Claims 11 and 17 through 41 are pending in this application. Claims 11 and 17 through 41 are have been finally rejected. It is from the final rejection of claims 11 and 17 through 41 that this Appeal is taken.

IV. STATUS OF AMENDMENTS

An Amendment was submitted pursuant to 37 CFR §1.116 on January 12, 2005 subsequent to the issuance of the final Office Action dated December 14, 2004. According to the Advisory Action dated January 26, 2005, the Amendment pursuant to 37 C.F.R. §1.116 will be entered if an Appeal is taken. Since an Appeal has been taken, Appellant is proceeding on the basis that the Amendment submitted pursuant to 37 C.F.R. §1.116 has been entered, that the rejection under the second paragraph of 35 U.S.C. §112 has been withdrawn, and that the rejections under 35 U.S.C. §102 and 35 U.S.C. §103 predicated primarily upon Bellue have been withdrawn.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Each of independent claims 11, 17, 21, 29 and 33, the only independent claims, is directed to an apparatus structured for processing meat. Each claimed apparatus comprises either a rotating paddle massager or rotating vessel tumbler containing impact vanes (10; Fig. 1), each of which comprises a vessel structured to receive and agitate bodies of meat to distribute a treating liquid therein.

The apparatus defined in independent claim 11 further comprises means for selectively heating and cooling the vessel during agitation, a jacket (20; Fig. 1) and means for selectively heating and cooling the vessel by circulating a cooled or heated liquid through the jacket, and a temperature sensor (22; Fig. 1) comprising a member capable of being thrust into the vessel to pierce a body of meat

therein, which member has a plurality of sensing regions along the length thereof to obtain an average temperature of the pierced body of meat.

The apparatus defined in independent claim 17 further comprises means for selectively heating and cooling the vessel during agitation, wherein the vessel comprises a rotating paddle within a massaging drum, and means for selectively heating and cooling the vessel, which means include means for selectively circulating the heated and cooled liquid through the jacket. In addition, the claimed apparatus comprises programming means for raising a temperature of the bodies of meat in the messaging drum to a predetermined elevated level while massaging the bodies of meat with a controlled torque.

The apparatus defined in independent claim 21 further comprises for means for selectively heating and cooling the vessel while agitating the bodies of meat, and a jacket for circulating a temperature regulating liquid therethrough for selectively heating and cooling the vessel while agitating the bodies of meat.

The apparatus defined in claim 29 further comprises means for maintaining the bodies of meat during agitation at a predetermined elevated temperature sufficient to effect rapid, thorough and uniform distribution of the liquid within the meat, and to substantially reduce the formation of a protein-water film, by selectively heating and cooling the vessel while agitating the bodies of meat therein, and a jacket for circulating a temperature controlling fluid therethrough.

The apparatus defined in independent claim 33 further comprises means for maintaining the bodies of meat during agitation at substantially 45° F to 60° F by selectively heating and cooling the vessel while agitating the bodies of meat therein, and a jacket for circulating a temperature controlling fluid therethrough.

Adverting to published Patent Application number 2002/0006457A1 for referencing purposes, the present invention constitutes a dramatic departure from conventional practices as apparent from the Examiner's own primary reference to Horn. Indeed, as discussed in paragraph [0004], conventional meat massaging involves the use of an apparatus designed and structured to maintain bodies of meat at a low temperature, as at about 23°F, during massaging. However, Appellant observed and addressed problems attendant upon such conventional cold massaging techniques. These problems include impeded massaging due to the formation of a coating which prevents penetration, absorption and/or dispersion of the treating solution throughout a body of meat, as well the lack of uniform internal coloration and ineffective utilization of additives (paragraphs [0008] and [0009]). Appellant's solution to this problem runs counter to conventional wisdom and practices by providing an apparatus structured to maintain bodies of meat during massaging at an elevated temperature, as at about 45° of to 60°F (paragraph [0020]). It was found that a vessel structure to maintain bodies of meat and an elevated temperature during massaging resulted in a more rapid, thorough and uniform distribution of the treating liquid within the meat and a substantially reduced coating on the surface of the meat, as well as limited breakdown of ingredients (paragraph [00041]). The notion of structuring an apparatus to maintain bodies of meat at an elevated temperature during massaging is alien to the applied prior art.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL¹

- 1. Claims 21, 26, 29, 30, 33, 34 and 39 through 41 stand finally rejected under 35 U.S.C. §103 for obviousness predicated upon Horn et al. in view of Gould;
- 2. Claims 17, 27 and 38 stand finally rejected under 35 U.S.C. §103 for obviousness predicated upon Horn et al. in view of Gould and Ludwig;
- 3. Claims 11, 22 through 25, 31, 35 and 37 stand finally rejected under 35 U.S.C. §103 for obviousness predicated upon Horn et al. in view of Gould and DE 3119496A (DE '496);
- 4. Claims 18 through 20 and 28 stand finally rejected under 35 U.S.C. §103 for obviousness predicated upon Horn et al. in view of Gould, Ludwig and DE '496; and
- 5. Claims 32 and 36 stand finally rejected under 35 U.S.C. §103 for obviousness predicated upon Horn et al. in view of DE '496, Gould and Ludwig.

VII. ARGUMENT

For the convenience of the Honorable Board of Patent Appeals and Interferences (the "Board"), Appellant only separately argues the patentability of each of independent claims 11, 17, 21, 29 and 33. Accordingly: claim 37 stands or falls with independent claim 11; claims 18 through 20 and 38 stand or fall with independent claim 17; claims 22 through 28 and 39 stand or fall with independent claim 21; claims 30 through 32 and 40 stand or fall within independent claim 29; and claims 34 through 36 and 41 stand or fall with independent claim 33.

Prior to addressing the Examiner's specific rejections, Appellant would stress that it remains undisputed on this record that conventional meat massaging techniques employed a low

¹ In the Advisory Action of January 26, 2005, the Examiner indicated that the rejection under the second paragraph of 35 U.S.C. §112 and the rejections under 35 U.S.C. §102 and 35 U.S.C. §103 predicated primarily upon Bellue have been overcome and, hence, presumably withdrawn on appeal.

temperature; whereas, Appellant addresses and solves heretofore unrecognized problems attendant upon such prior art cold massaging techniques by structuring an apparatus to maintain bodies of meat at an elevated temperature during massaging such that the treating liquid is effectively distributed within the bodies of meat.

1. The rejection of claims 21, 26, 29, 30, 33, 34 and 39 through 41 under 35 U.S.C. §103 for obviousness predicated upon Horn et al. in view of Gould.

The Examiner's Position

The Examiner begins with a primary reference to Horn et al. who do disclose an apparatus, such as a paddle massager, used for massaging or tumbling bodies of meat with a marinating liquid. The disclosed apparatus comprises a jacket for circulating a **refrigerant** therethrough. The Examiner recognizes that the apparatus disclosed by Horn et al. does **not** contain a heating means. Of course it does not. This is because it is an objective of Horn et al. to conduct **rapid chilling during tumbling**. Undaunted by or ignoring what Horn et al. seek to accomplish, the Examiner concluded that one having ordinary skill in the art would somehow have been motivated to proceed completely **against** the objectives and teachings of Horn et al. by impressing heating means into the apparatus of Horn et al. Why? Certainly not to employ a refrigerant to effect rapid chilling. Because heating means was perceived to reside in the reference to Gould.²

² Appellant notes that the Examiner previously rejected claims 29 and 33 under 35 U.S.C. §102 based upon Gould in the Office Action dated September 24, 2004. However, the Examiner quickly abandoned reliance upon Gould after submission of the Amendment dated November 18, 2004, in which Appellant argued that Gould et al. actually teach massaging at lower temperatures than the temperature of 32° F to 34°F, certainly lower than the temperature employed by Appellants, and only disclosed elevated temperatures for dehydrating and cooking but not for maintaining bodies of heat during agitation. In fact, Gould is completely silent with respect to the concept of selectively heating and cooling to optimize treatment with a fluid during massaging as in the claimed invention.

In the Advisory Action dated January 26, 2005, the Examiner initially interpreted the structural requirement of each of the independent claims for heating means as nonlimiting as though it did not exist. The Examiner then backed off and construed heating means as an intended use, which it is not because it is a structural limitation. The Examiner finally retreated to Gould but regardless of whatever Gould teaches, it can not supply the requisite fact-based motivation to destroy the objective of Horn et al.

Appellant's Position

As to each of independent claims 21, 29 and 33, Appellant submits that the Examiner's approach is totally unrealistic. It can not be gainsaid that the reason Horn et al. do not disclose an apparatus containing heating means is simply because Horn et al. do not want to heat anything.

Rather, Horn et al. are concerned only with **rapid chilling**, because to Horn et al. heat is problematic.

The Examiner failed to comply with consistent judicial precedent by making clear and particular factual findings as to a specific understanding or specific technological principle and then, based upon such factual findings, explain why one having ordinary skill in the art would have been realistically impelled to modify particular prior art, in this case, the "refrigerated cylindrical drum paddle agitator mixer" disclosed by Horn et al. (column 1, lines 9 through 11), to arrive at the claimed invention. In re Lee, 237 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002); In re Kotzab, 217 F.3d 1365, 55 USPQ 1313 (Fed. Cir. 2000); In re Dembiczak, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). In this respect, Appellant would stress that the apparatus disclosed by Horn et al. is intended to effect rapid vacuum chilling. Indeed, adverting to column 2 of Horn et al., lines 39 through 51, it is disclosed that vacuum chilling and tumbling work well for certain meats, such as ham. However, it is not effective for other meat products, notably poultry. This is because there is insufficient heat exchange area per volume to effectively chill the poultry during a short massaging

cycle of only 20 to 25 minutes. There is simply not enough time during this short vacuum massage cycle for efficient heat transfer to occur to reduce the temperature. In column 2 of Horn et al., lines 13 and 14, it is made clear that the problem addressed and solved by Horn, as well as others in the industry, is the **problem of heat generation**. In short, heat is a bad actor; fast chilling is desired.

Consistent with the above goal of avoiding heating and effecting rapid chilling, Horn et al. provide a structure with a hollow paddle agitator to reduce heat and maximize heat exchange, thereby resulting in a product that "... is chilled at an extremely rapid rate" (column 3 of Horn et al., lines 20 and 21).

As Horn et al. want **rapid chilling** and want to **avoid heating**, Appellant submits it is inconceivable that one having ordinary skill in the art would somehow have been realistically impelled to **impress heating means** in the apparatus disclosed by Horn et al. *In re Lee supra, In re Rouffet, supra.* Indeed, Appellant relies upon the well established legal tenet that one having ordinary skill in the art cannot be realistically motivated to modify a reference in a manner of which is **antithetic** to the disclosed objective, i.e., provide heating means in order to achieve rapid chilling. In fact, any such modification of the device disclosed by Horn et al. would render it **inoperative** for its intended purpose. *In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992); In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); <i>In re Schulpen, 390 F.2d 1009, 157 USPQ 52 (CCPA 1968)*.

Independent Claim 21

Independent claim 21 requires, as a structural limitation, means for selectively heating and cooling the vessel during agitation of the bodies of meat. This is a structural limitation. The Examiner admits that the primary reference to Horn et al. does not contain any heating means. Indeed, as previously stressed, heat is antithetic to the objective of Horn et al. Heat is a problem. **Horn et al.**

seek to avoid heating by effecting rapid chilling. There is nothing in Gould which could possibly suggest destroying the objective of Horn et al. by impressing heating means in the apparatus. To say that the impression that heating means in the apparatus of Horn et al. would effect rapid chilling strains credulity.

Moreover, as previously argued in the November 18, 2004 Amendment in overcoming a rejection of under 35 U.S.C. §102 predicated upon Gould, a temperature of 32°F to 34°F is disclosed as an appropriate temperature when processing meat to facilitate the distribution of a curing agent and to ensure a greater release of myosin. Thus, temperatures of 34°F and lower are the temperatures disclosed by Gould. But Horn et al. deal with a very short vacuum massage cycle and require rapid chilling. How rapid chilling can be effected by heating means to satisfy the objective of Horn et al. has not been articulated on this record with commendable clarity.

In the continuation sheet appended to the January 26, 2005 Advisory Action, the Examiner seems to rely upon "what the combined teachings of the references would have suggested to those of ordinary skill in the art" and then asserted that Gould's heater "would act to maintain the temperature range of Horn et al. under diverse surrounding ambient conditions, and would adjust the temperature of the meat to maintain this range". This conclusion ignores the fact that Horn et al. want rapid chilling.

The bottom line is that Horn et al. do not want to heat anything because the generation of heat is problematic. Horn et al. seek to effect rapid chilling. There is no conceivable way that Gould would have suggested to one having ordinary skill in the art the idea of modifying the apparatus disclosed by Horn et al. to provide a heating means, because such a modification is **inconsistent** with the **objective** of Horn et al. *In re Fitch, supra; In re Gordon, supra; In re Schulpen, supra*.

Independent Claim 29

Independent claim 29 requires means to maintain the bodies of meat during agitation at a predetermined elevated temperature sufficient to effect rapid, thorough and uniform distribution of liquid within the meat, and to substantially reduce formation of a protein/water film, by selective heating and cooling the vessel while agitating the bodies of meat therein. As argued with respect to independent claim 21, the Examiner has failed to provide the requisite fact-based motivation which would have realistically impelled one having ordinary skill in the art to modify the apparatus disclosed by Horn et al., structured to effect rapid chilling, by providing heating means, let alone heating means capable of maintaining the bodies of meat during agitation at a predetermined elevated temperature sufficient to achieve the results specified in claim 29, i.e., rapid and uniform distribution of the liquid and substantially reduced formed of a protein/water film.

Independent Claim 33

Independent claim 33 requires means to maintain the bodies of meat during agitation at substantially 45°F to 60°F by selectively heating and cooling the vessel during agitation. As previously argued with respect to independent claim 21, one having ordinary skill in the art would not have been realistically motivated to modify the apparatus disclosed by Horn et al. by providing heating means, because this would atheistic to the disclosed objective and render the invention of Horn et al. inoperative. *In re Fitch, supra; In re Gordon, supra; In re Schulpen, supra.* Moreover, the notion of maintaining bodies of meat at a temperature of 45°F to 60°F is completely inconsistent with the rapid chilling objective of Horn et al.

Based upon the foregoing, Appellant submits that the Examiner fails to establish a prima facie basis to deny patentability through any of independent claims 21, 29 and 33 the lack of the requisite realistic motivation. Moreover, there are potent indicia of **nonobviousness** which undermine the Examiner's obviousness conclusion.

Indicia of Nonobviousness

It is clear that Horn et al. **teach away** from the claimed invention by avoiding heat and effecting rapid chilling. This **clear teaching away** from the claimed invention by the primary reference to Horn et al. constitutes a potent indicium of **nonobviousness**. *Ecolochem Inc. v. Southern California Edison, Co., supra; In re Bell, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); Specialty Composites v. Cabot Corp., 845 F.2d 981, 6 USPQ2d 1601 (Fed. Cir. 1988); In re Hedges, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986); In re Marshall, 578 F.2d 301, 198 USPQ 344 (CCPA 1978).*

As previously argued, Appellant discovered problems attendant upon conventional practices of massaging bodies of liquid-injected meat at a relatively low temperature. Applicant's discovery of such problems constitutes another potent indicium of **nonobviousness** which merits consideration, particularly since the **primary reference** to Horn et al. **teaches away** from the claimed invention. *In re Sponnoble*, 405 F.2d 578, 160 USPQ237 (CCPA 1969).

Conclusion

Based upon the foregoing, it should be apparent that a prima facie basis to deny patentability to the inventions defined in each of independent claims 21, 29 and 33 and, consequently, the claims dependent thereon, has not been established for lack of the requisite factual basis and want of the requisite realistic motivation. Moreover, upon giving due consideration the potent indicia of

nonobviousness stemming from the clear teaching away from the claimed invention by the primary reference to Horn et al. and Appellant's discovery of problems attendant upon prior art practices, the conclusion appears inescapable that one having ordinary skill in the art would not have found the claim subject matter as a whole obviousness within the meaning of 35 U.S.C. §103. *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984).

2. The rejection of claims 17, 27 and 38 under 35 U.S.C. §103 for obviousness predicated upon Horn et al. in view of Gould and Ludwig.

Initially, claim 27 stands or fall with independent claim 21, and claim 38 stands or falls within independent claim 17.

The apparatus defined in independent claim 17 comprises means for selectively heating and cooling the vessel during agitation of the bodies of meat, which means includes means for selectively circulating a heated and a cool fluid through the jacket. As previously stressed, one having ordinary skill in the art would **not** have been realistically impelled by Gould to modify the apparatus disclosed by Horn et al. by impressing therein heating means, because such would be atheistic to the objective of Horn et al., and, indeed, render the invention of Horn et al. inoperative. *In re Fitch, supra; In re Gordon, supra; In re Schulpen, supra*.

Moreover, the apparatus is defined in independent claim 17 requires programming means for raising a temperature of the bodies of meat in the massaging drum to a predetermined elevated temperature during massaging. Why one having ordinary skill in the art would somehow have been motivated to provide to modify the apparatus of Horn et al. by providing programming means for elevating the temperature is a mystery, particularly since Horn et al. seek to affect **rapid chilling**

during a short massage cycle. Ecolochem Inc. v. Southern California Edison, Co., supra; In re Rouffet, supra.

The tertiary reference to Ludwig does not cure the argued deficiencies in the Examiner's attempted combination of Horn et al. and Gould. Appellant, therefore, submits that the Examiner failed to establish a prima facie basis do deny patentability to the invention defined in independent claim 17 and claim 38 dependent thereon under 35 U.S.C. §103 for lack of the requisite factual basis and want of the requisite realistic motivation. Moreover, as previously argued, the clear **teaching away** from the claimed invention by the primary reference to Horn et al. constitutes a potent indicum of nonobviousness. *Ecolochem Inc. v. Southern California Edison, Co., supra; In re Bell, supra; Specialty Composites v. Cabot Corp., supra; In re Marshall, supra.* It remains undisputed on this record that Appellant discovered problems attendant upon conventional practices of massaging bodies of liquid-injected meat at a relatively low temperatures. Appellant's discovery of such problems constitutes another potent indicum of **nonobviousness**. *In re Sponnable, supra*.

The failure of the Examiner to establish a prima facie basis to deny patentability to the claimed invention considered with the potent indicia of nononobviousness compel the conclusion that one having ordinary skill in the art would not have found the claim subject matter as a whole obvious within the meaning of 35 U.S.C. §103.

3. The Rejection of claims 11, 22 through 25, 31, 35 and 37 under 35 U.S.C. §103 for obviousness predicated upon Horn et al. in view of Gould and DE'496.

Initially, Appellant notes that claims 22 through 25 stand or fall with independent claim 21, claim 31 stands or fall with independent claim 29, and claim 37 stands or falls with independent claim 11.

The apparatus defined in **independent claim 11** comprises means for selectively heating and cooling the vessel during agitation of the bodies of meat, together with a jacket through which a heated liquid and a cool liquid are selectively passed. As previously argued, one having ordinary skill in the art would not have been realistically motivated by Gould to modify the apparatus disclosed by Horn et al., which is designed for rapid chilling, to provide heating means as in the claimed invention, because that is completely inconsistent with the objective of Horn et al. and would destroy the invention of Horn et al. rendering it inoperable. *In re Fitch, supra; In re Gordon, supra; In re Schulpen, supra*.

Independent claim 11 further requires a temperature sensor positioned for direct contact with bodies of meat. Given the objective of rapid chilling due a short massaging cycle, it strains credulity to say that one having ordinary skill in the art would somehow have been motivated to stop and take temperature measurements. This is because Horn et al., seek to cool as fast as possible. In this respect, Appellant notes that DE'496 is not concerned with rapid chilling as are Horn et al.

Appellant, therefore, submits that the Examiner failed to establish a prima facie basis to deny patentability to the invention defined in independent claim 11, and claim 37 dependent thereon, for lack of the requisite factual basis and want of the requisite realistic motivation. Moreover, upon giving due consideration to the clear **teaching away** from the claimed invention by the primary reference to Horn et al., and Appellant's **discovery of problems** attendant upon conventional cold massaging techniques, the conclusion inescapable that one having ordinary skill in the art would not have found the claimed subject matter as a whole obvious within the meaning of 35 U.S.C. §103. *In re Piasecki, supra.*

4. The Rejection of Claims 18 through 20 and 28 under 35 U.S.C. §103 for obliviousness predicated upon Horn et al. in view of Gould, Ludwig and DE '496.

Claims 18 through 20 stand or fall with independent claim 17 and 28 stands or fall with independent claim 1.

5. The Rejection of claims 32 and 36 under 35 U.S.C. §103 for obliviousness predicated upon Horn et al. in view of DE'496, Gould and Ludwig.

Claim 32 stands or falls with independent claim 29, and claim 36 stands or fall with independent claim 33.

Summary

The Examiner failed to establish a prima facie basis to deny patentability to the invention defined in any of the independent claims, because the Examiner begins with a primary reference (Horn et al.) that seeks to effect rapid chilling in a short period of time. It is inconceivable that one having ordinary skill in the art would have been realistically motivated to impress into the apparatus of Horn et al. any heating means, because that would destroy the invention of Horn et al. In re Fitch, supra; In re Gordon, supra; In re Schulpen, supra. Further, as previously stressed, this clear teaching away from the claimed invention by the primary reference to Horn et al., coupled with the undisputed fact that Appellant discovered problems attendant upon conventional cold massaging techniques, compel the conclusion that one having ordinary skill in the art would not have found the claimed subject matter as a whole obviousness within the meaning of 35 U.S.C. §103. In re Piasecki, supra.

VIII. PRAYER FOR RELIEF

Based upon the arguments submitted *supra*, Appellant submits that none of the imposed rejections under 35 U.S.C. §103 predicated primarily upon Horn et al. is factually or legally viable.

Appellant, therefore, solicits the Honorable Board to reverse each of the Examiners rejections under 35 U.S.C. §103

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Facsimile: (202) 756-8087 **Date: April 28, 2005**

CLAIMS

11. An apparatus for processing meat which comprises:

a rotating paddle stationary vessel massager or rotating vessel tumbler containing impact vanes, each comprising a vessel for receiving bodies of meat in contact with a treating liquid and for agitating said bodies of meat to distribute said treating liquid in said bodies of meat;

means for selectively heating and cooling said vessel during the agitation of said bodies of meat therein;

a jacket for said vessel, said means for selectively heating and cooling said vessel comprising a refrigeration unit for cooling a liquid and circulating the cooled liquid through said jacket and a heater for heating a liquid and passing the heated liquid through said jacket selectively; and

a temperature sensor positioned for direct contact with bodies of meat in said vessel and operatively connected to said means for selectively heating and cooling said vessel for controlling a temperature of said vessel during the agitation of said bodies of meat therein, said temperature sensor being provided with a member capable of being thrust into said vessel to pierce a body of meat therein, said member having a plurality of sensing regions along a length thereof for providing an average temperature of the body of meat pierced thereby.

17. An apparatus for processing meat which comprises:

a rotating paddle stationary vessel massager or rotating vessel tumbler containing impact vanes, each comprising a vessel for receiving bodies of meat in contact with a treating liquid and for agitating said bodies of meat to distribute said treating liquid in said bodies of meat; and

means for selectively heating and cooling said vessel during the agitation of said bodies of meat therein, said vessel being a massager having a massaging drum formed with a temperature control jacket and a rotary paddle in said drum, said means for selectively heating and cooling said vessel including means for selectively circulating a heated and a cooled liquid through said jacket, said apparatus further comprising programming means for raising a temperature of said bodies of meat in said massaging drum to a predetermined elevated temperature while massaging said bodies of meat with a controlled torque of said rotary paddle.

- 18. The apparatus defined in claim 17, further comprising a temperature sensor positioned for direct contact with bodies of meat in said massaging drum and operatively connected to said means for selectively circulating said heated and cooled liquid through said jacket for controlling a temperature of said massaging drum during the agitation of said bodies of meat therein.
- 19. The apparatus defined in claim 18 wherein said temperature sensor extends through a wall of said massaging drum and is thermally insulated therefrom to respond directly to a surface temperature of bodies of meat in said massaging drum.
- 20. The apparatus defined in claim 18 wherein said temperature sensor is provided with a member capable of being thrust into an interior of said massaging drum to pierce a body of meat therein.

21. An apparatus comprising:

a rotating paddle stationary vessel massager or rotating vessel tumbler containing impact vanes, each comprising a vessel for receiving and agitating bodies of meat in contact with a treating liquid to distribute the treating liquid in the bodies of meat;

means for selectively heating and cooling the vessel while agitating the bodies of meat therein; and

a jacket, on the vessel, for circulating a liquid therethrough for selectively heating and cooling the vessel while agitating the bodies of meat.

- 22. The apparatus according to claim 21, further comprising a temperature sensor positioned for direct contact with bodies of meat in the vessel and operatively connected to the means for selectively heating and cooling said vessel for controlling a temperature of the vessel while agitating the bodies of meat therein.
- 23. The apparatus according to claim 22, wherein the temperature sensor extends through a wall of the vessel and is thermally insulated therefrom to respond directly to a surface temperature of bodies of meat in the vessel.
- 24. The apparatus according to claim 22, wherein the temperature sensor is provided with a member capable of being thrust into the vessel to pierce a body of meat therein.

- 25. The apparatus according to claim 24, wherein the member has a plurality of sensing regions along a length thereof for providing an average temperature of the body of meat pierced thereby.
- 26. The apparatus according to claim 21, wherein the vessel is a massager having a massaging drum formed with a temperature control jacket and a rotary paddle in the drum, and the means for selectively heating and cooling the vessel includes means for selectively circulating a heated and a cooled liquid through the jacket.
- 27. The apparatus according to claim 26, further comprising programming means for raising a temperature of the bodies of meat in the massaging drum to a predetermined elevated temperature while massaging said bodies of meat with a controlled torque of the rotary paddle.
- 28. The apparatus according to claim 27, further comprising a temperature sensor positioned for direct contact with bodies of meat in the massaging drum and operatively connected to the means for selectively circulating the heated and cooled liquid through the jacket for controlling a temperature of the massaging drum while massaging the bodies of meat therein.

29. An apparatus comprising:

a rotating paddle stationary vessel massager or rotating vessel tumbler containing impact vanes, each comprising a vessel for receiving and agitating bodies of meat in contact with a treating liquid to distribute the treating liquid in the bodies of meat;

means for maintaining the bodies of meat during agitation at a predetermined elevated temperature sufficient to effect rapid, thorough and uniform distribution of the liquid within the meat, and to substantially reduce formation of a protein/water film, by selectively heating and cooling the vessel while agitating the bodies of meat therein; and

a jacket on the vessel for circulating a temperature controlling fluid.

- 30. The apparatus according to claim 29, wherein the means for selectively heating and cooling the vessel comprising a refrigeration unit for cooling a liquid and circulating the cooled liquid through the jacket and a heater for heating a liquid and passing the heated liquid through the jacket selectively.
- 31. The apparatus according to claim 30, further comprising a temperature sensor positioned for direct contact with bodies of meat in the vessel and operatively connected to the means for controlling a temperature of the vessel while agitating the bodies of meat therein.
- 32. The apparatus according to claim 31, wherein the vessel is a massager having a massaging drum formed with a temperature control jacket and a rotary paddle in the drum, the apparatus further comprising programming means for raising a temperature of the bodies of meat in the massaging drum to the predetermined elevated temperature while massaging the bodies of meat with a controlled torque of the rotary paddle.

33. An apparatus comprising:

a rotating paddle stationary vessel massager or rotating vessel tumbler containing impact vanes, each comprising a vessel for receiving and agitating bodies of meat in contact with a treating liquid to distribute the treating liquid in the bodies of meat;

means for maintaining the bodies of meat during agitation at substantially 45°F to 60°F by selectively heating and cooling the vessel while agitating the bodies of meat therein; and a jacket on the vessel for circulating a temperature controlling fluid.

- 34. The apparatus according to claim 33, wherein the means for selectively heating and cooling the vessel comprising a refrigeration unit for cooling a liquid and circulating the cooled liquid through the jacket and a heater for heating a liquid and passing the heated liquid through the jacket selectively.
- 35. The apparatus according to claim 34, further comprising a temperature sensor positioned for direct contact with bodies of meat in the vessel and operatively connected to the means for controlling a temperature of the vessel while agitating the bodies of meat therein.
- 36. The apparatus according to claim 35, wherein the vessel is a massager having a massaging drum formed with a temperature control jacket and a rotary paddle in the drum, the apparatus further comprising programming means for raising a temperature of the bodies of meat in the massaging drum to the predetermined elevated temperature while massaging the bodies of meat with a controlled torque of the rotary paddle.

- 37. The apparatus according to claim 11, comprising a rotating paddle stationary vessel massager.
- 38. The apparatus according to claim 17, comprising a rotating paddle stationary vessel massager.
- 39. The apparatus according to claim 21, comprising a rotating paddle stationary vessel massager.
- 40. The apparatus according to claim 29, comprising a rotating paddle stationary vessel massager.
- 41. The apparatus according to claim 33, comprising a rotating paddle stationary vessel massager.